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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,743	10/16/2006	Gereon Vogtmeier	DE030340US1	2256

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EXAMINER

KIKNADZE, IRAKLI

ART UNIT	PAPER NUMBER
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2882

MAIL DATE	DELIVERY MODE
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09/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,743	Applicant(s) VOGTMEIER ET AL.	
	Examiner IRAKLI KIKNADZE	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/17/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-15 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In response to the Office action mailed on March 17, 2008 the Amendment has been received on June 17, 2008.

Claims 5 and 10 have been amended.

Claims 1-15 are currently pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 4 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Scheueringer (US Patent 7,054,412 B2).

With respect to claim 1, Scheuering teaches an X-ray unit comprising at least a first arrangement (9 and 10) for the contactless and X-ray-free measurement of first data of an object (2), a second arrangement (3 and 4) for measuring X-ray data of the object (2) using X-rays, and a control unit that is provided for controlling the second arrangement as a function of the first data, wherein at least one of intensity and mean

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energy of the X-rays is controlled by the control unit based at least in part on the first data (Figs. 1 and 2; column 2, lines 41-49 and 57-65; column 3, lines 9-22 and 42-55).

With respect to claim 3, Scheuering teaches that the first arrangement (laser range finder 9) comprises a transmitter for transmitting light and a receiver for receiving the reflected light (column 2, lines 57-65).

With respect to claim 4, Scheuering teaches that the first data are geometry data of the object (column 2, lines 64-65; column 3, lines 44-55).

With respect to claim 9, Scheuering teaches that the X-ray unit comprises a processor unit (11) that is intended to convert data measured in the first arrangement into geometry data (column 2, lines 57-65 and column 3, lines 44-55).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheueringer (US Patent 7,054,412 B2) as applied to claim 1 above, and further in view of Proksa et al. (US Patent Application Publication 2001/0014140 A1).

With respect to claim 2, Scheuering teaches that the first arrangement is stationary with respect to the object (2) but fails to teach that the second arrangement

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rotates with respect to the object. Proksa teaches an X-ray medical comprising an X-ray source and detector rotating with respect to an object to acquire 3D data (see abstract; claim 8). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the X-ray source and detector rotating with respect to the object as suggested by Proksa in the apparatus of Scheuering, since such a modification would provide user with capabilities to enhance X-ray imaging by acquiring 3D imaging data.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheueringer (US Patent 7,054,412 B2) in view of Saunders (US Patent 4,896,343).

With respect to claim 5, Scheueringer teaches an X-ray unit comprising at least a first arrangement for the contactless and X-ray-free measurement of first data of an object (2), a second arrangement for measuring X-ray data of the object (2) using X-rays, and a control unit that is provided for controlling the second arrangement as a function of the first data, wherein at least one of intensity and mean energy of the X-rays is controlled by the control unit based at least in part (Figs. 1 and 2; column 2, lines 41-49 and 57-65; column 3, lines 9-22 and 42-55). Scheueringer fails to teach that the first arrangement measures the first data by triangulation. Saunders teaches an irradiation apparatus including an x-ray, an optical distance and surface profile measuring device, and means for adjusting the dose of radiation delivered to a target surface by the source based on a precise measured distance from the source to the target surface by triangulation (Figs. 1-3; see abstract; column 4, lines 31-41).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to measure distance from the source to the target surface by triangulation as suggested by Saunders in the apparatus of Scheuering, since such a modification would provide user with capabilities to enhance measuring accuracy.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheueringer (US Patent 7,054,412 B2) and Saunders (US Patent 4,896,343) as applied to claim 5 above, and further in view of Shukla et al. (US Patent 6,708,054 B2).

With respect to claim 7, Scheueringer as modified by Saunders teaches claimed invention except a plurality of spatially stationary measuring units. Shukla teaches a plurality of spatially stationary measuring units (70) (see Fig. 1) in order to facilitate coordination of the patient's position.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to measure distance to the target surface by a plurality of spatially stationary measuring units as suggested by Shukla in the apparatus of Scheuering as modified by Saunders, since such a modification would provide user with capabilities to enhance measuring accuracy.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheueringer (US Patent 7,054,412 B2) and Saunders (US Patent 4,896,343) as applied to claim 5 above, and further in view Proksa et al. (US Patent Application Publication 2001/0014140 A1).

With respect to claim 8, Scheuering as modified by Saunders teaches claimed invention except that the second arrangement rotates with respect to the object. Proksa

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teaches an X-ray medical comprising an X-ray source and detector rotating with respect to an object to acquire 3D data (see abstract; claim 8). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the X-ray source and detector rotating with respect to the object as suggested by Proksa in the apparatus of Scheuering as modified by Saunders, since such a modification would provide user with capabilities to enhance X-ray imaging by acquiring 3D imaging data.

7. Claims 10, 11 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheueringer (US Patent 7,054,412 B2) in view of Proksa et al. (US Patent Application Publication 2001/0014140 A1).

With respect to claim 10, Scheuering teaches a method of measuring X-ray data of an object (2) that comprises the following steps: measuring of first data of the object (2) by means of a contactless and X-ray-free method that is stationary with respect to the object, obtaining X-ray data of the object (2) by means of X-rays from an emitter and controlling the measurement of the X-ray data as a function of the first data, wherein at least one of intensity and mean energy of the X-rays is controlled based at least in part on the first data (Figs. 1 and 2; column 2, lines 41-49 and 57-65; column 3, lines 9-22 and 42-55). Scheuering fails to teach that the second arrangement rotates with respect to the object. Proksa teaches an X-ray medical comprising an X-ray source and detector rotating with respect to an object to acquire 3D data (see abstract; claim 8). It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the X-ray source and detector rotating with respect to the object as suggested by Proksa in the method of Scheuering, since such a modification

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would provide user with capabilities to enhance X-ray imaging by acquiring 3D imaging data.

With respect to claim 11, Scheuering teaches that the measuring the first data is accomplished by means of light, whereby as an intermediate step in the measurement step the light is reflected by a reflection-optimizing means that is provided on the object (Figs. 1 and 2; column 2, lines 41-49 and 57-65; column 3, lines 9-22 and 42-55).

With respect to claim 13, Scheuering teaches controlling at least one of an intensity or mean energy of the X-rays based at least in part on the first data (Figs. 1 and 2; column 2, lines 41-49 and 57-65; column 3, lines 9-22 and 42-55).

With respect to claim 14, Scheuering teaches determining a geometry of the object from the first data (Figs. 1 and 2; column 2, lines 41-49 and 57-65; column 3, lines 9-22 and 42-55).

With respect to claim 15, Scheuering teaches determining the geometry of the object based on the first data and geometry of a support structure for the object (Figs. 1 and 2; column 2, lines 41-49 and 57-65; column 3, lines 9-22 and 42-55).

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheueringer (US Patent 7,054,412 B2) in view of Proksa et al. (US Patent Application Publication 2001/0014140 A1) as applied to claim 10 above, and further in view of Saunders (US Patent 4,896,343).

With respect to claim 12, Scheueringer as modified by Proksa teaches an X-ray unit comprising at least a first arrangement for the contactless and X-ray-free measurement of first data of an object (2), a second arrangement for measuring X-ray

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data of the object (2) using X-rays, and a control unit that is provided-for controlling the second arrangement as a function of the first data, wherein at least one of intensity and mean energy of the X-rays is controlled by the control unit based at least in part (Figs. 1 and 2; column 2, lines 41-49 and 57-65; column 3, lines 9-22 and 42-55). Scheueringer as modified by Proksa fails to teach that the first arrangement measures the first data by triangulation. Saunders teaches an irradiation apparatus including an x-ray, an optical distance and surface profile measuring device, and means for adjusting the dose of radiation delivered to a target surface by the source based on a precise measured distance from the source to the target surface by triangulation (Figs. 1-3; see abstract; column 4, lines 31-41).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to measure distance from the source to the target surface by triangulation as suggested by Saunders in the apparatus of Scheuering as modified by Proksa, since such a modification would provide user with capabilities to enhance measuring accuracy.

Allowable Subject Matter

9. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: with respect to claim 6, prior art fails to teach or make obvious an X-ray unit, wherein the first arrangement has a measuring unit that rotates around the object as claimed in combination with all of the remaining limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to IRAKLI KIKNADZE whose telephone number is (571)272-2493. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Irakli Kiknadze
/Irakli Kiknadze/
Primary Examiner, Art Unit 2882
/I. K./ September 14, 2008